

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001676**Date Inspected:** 08-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Huang Wen-Pang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 3 OBG:

The QA Inspector randomly observed ZPMC Non-Destructive Testing (NDT) Technician Zhou Dongyun, utilizing the Magnetic Particle Testing (MT) Method, to examine Weld Joint (WJ) Numbers 001 through 012 on Side Plate SP064-01. Mr. Zhou observed a linear indication at the start of WJ 012 and marked the area. The QA Inspector also randomly observed the indication and it appeared to be a slag inclusion in that started in the root of WJ 012, and could be seen visually. Mr. Zhou did not accept the welds on SP064-01 at this time. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC NDT Technician Cai Xin Xin utilizing the MT Method, to examine welds to examine WJ's 013 through 024 on side Plate SP074-01. Mr. Cai visually observed some surface porosity at the start of WJ 019 and marked the area. The QA Inspector also randomly observed the indication. Mr. Cai instructed a ZPMC helper try to remove the surface porosity with an angle grinder. The QA Inspector randomly observed the ZPMC helper remove weld metal up to the start of the base metal in the web of the T-stiffener at WJ 019. Mr. Cai instructed the helper stop the grinding before removing of any of the base metal of the T-stiffener web. Mr. Cai did not accept the welds on SP074-01 at this time.

The QA Inspector randomly observed ZPMC NDT Technicians Cai Xin Xin and Zhou Dongyun utilizing the MT

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Method, to examine WJ's 001 through 014 on side Plate SP046-01. Mr. Cai visually observed some indications in the area of the cope at the start WJ 012 and marked the area. The QA Inspector also randomly observed the indication. Mr. Cai instructed a ZPMC helper try to remove the indication with an angle grinder. The QA Inspector randomly observed the ZPMC helper remove weld metal and the indication appeared to have been removed. Mr. Cai informed the QA Inspector that the area would have to be repaired by welding and examined again by MT. Mr. Cai did not accept the welds on SP046-01 at this time.

Bay 7 OBG:

The QA Inspector randomly observed ZPMC Welders Hong Yongli ID Number 044801 and Chen Chuan Zong ID Number 044824, utilizing the FCAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position with Hitronic HIT-18-1D Automatic Welding Carriages, to weld various stiffeners to Floor Beam Sub-Assembly FB017-02. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. The QA Inspector also randomly observed welding parameters and they are as follows: 290 amps, 29.3 volts with a travel speed of 415 millimeters (mm) per minute for Mr. Hong and 291 amps, 29.6 volts with a travel speed of 413 mm per minute for Mr. Chen. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC Welder Wang Liansheng ID Number 051127 utilizing the FCAW Process with WPS WPS-B-T-2232 in the 2G (Horizontal Groove) position to weld the Complete Joint Penetration (CJP) welds at the tapered ends of various stiffeners on Floor Beam Sub-Assembly FB017-01. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. The QA Inspector also randomly observed welding parameters and they are as follows: 299 amps, 30.7 volts with a travel speed of 301 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC NDT Technician Cai Xin Xin, utilizing the MT Method, to examine the welds attaching T-Stiffeners to Floor Beam Web FB002-03. There appeared to be no indications and Mr. Cai accepted the welds on FB003-03.

The QA Inspector randomly observed ZPMC NDT Technicians Cai Xin Xin and Zhou Dongyun, utilizing the MT Method, to examine the welds attaching T-Stiffeners to Floor Beam Web FB007-03. There appeared to be no indications and both Mr. Cai and Mr Zhou accepted the welds on FB007-03.



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Summary of Conversations:

As noted in the above body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie
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Quality Assurance Inspector

Reviewed By:	Hager,Craig
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QA Reviewer
